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THE LIFE HISTORY OF *TRAPEZITES IACCHOIDES* WATERHOUSE AND *TRAPEZITES PHIGALIOIDES* WATERHOUSE (LEPIDOPTERA: HESPERIIDAE: TRAPEZITINAE)

By Andrew Atkins

45 Caldwell Avenue, Dudley, New South Wales 2290

Abstract

The early stages of *Trapezites iacchoides* Waterhouse and *Trapezites phigalioides* Waterhouse are described and illustrated. The skippers are briefly compared with other closely related species of *Trapezites*.

Introduction

Trapezites iacchoides Waterhouse (Figs 12, 13) and *Trapezites phigalioides* Waterhouse (Figs 27, 28) are found in the cool-temperate *Eucalyptus* woodlands of the Great Dividing Range of eastern Australia, from the New South Wales/Queensland border to Victoria. The species are generally montane butterflies in the northern part of their range. Both are univoltine, the adults flying from September to January.

The mature larva and pupa of *T. phigalioides* were described by Common and Waterhouse (1981) and the life history of *T. iacchoides* was previously unknown.

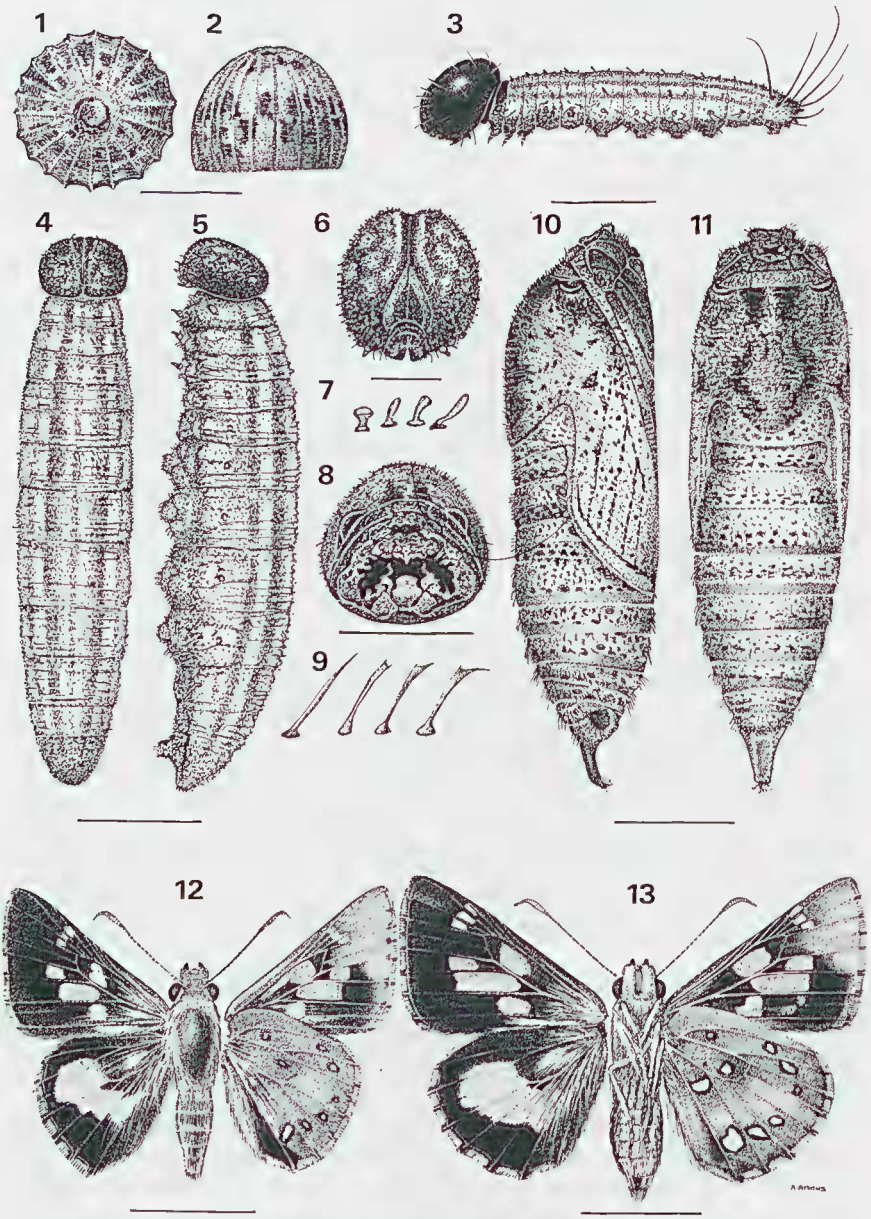
Trapezites iacchoides Waterhouse, 1903.

(Figs 1-15)

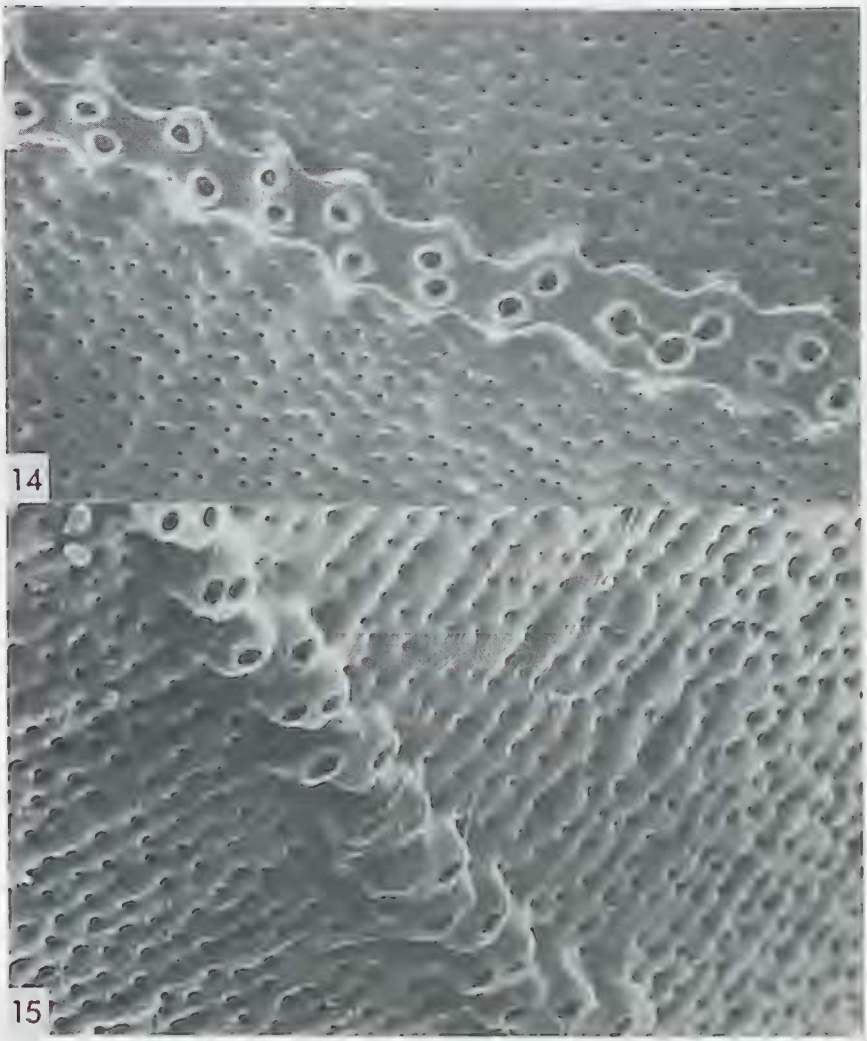
Foodplant. Lomandra sp., family Xanthorrhoeaceae.

Egg. (Figs 1, 2, 14, 15). Diam. 1.4 mm, dome-shaped, pale green when first laid, changing in 2 days to cream coloured with orange-brown dorsal and lateral markings; 19-21 prominent vertical ribs.

Larva. (Figs 3-7). *1st instar* (Fig. 3): length 3.5 mm; head shiny black, pale setae on frons and dorsal area; prothoracic plate black; body pale straw-coloured with orange-brown dorsal and dorso-lateral lines; long pale setae on posterior segments. *2nd-5th instars* (4th instar Figs 4-7): head dark brown with several light brown spots and 2 elongated pale patches extending dorsally to frons; body pale grey-green to brown with darker mottling forming a dorsal and 2 dorso-lateral lines along length of body; body setae short and clubbed (Fig. 7).



Figs 1-13. Life history of *Trapezites iacchoides* Waterhouse: (1, 2) egg; (3) 1st instar larva; (4-6) mature larva; (7) larval setae; (8, 10, 11) pupa; (9) pupal setae; (12) adult male, upperside and underside, from Sydney; (13) adult female, upperside and underside, from Barrington Tops.



Figs 14, 15. SEM photograph of egg detail: (14) *Trapezites iacchoides* egg from Sydney; (15) *Trapezites iacchoides* egg from Barrington Tops. Magnification x500.

Pupa. (Figs 8-11). Length 24 mm; pale brown with darker brown spots covering abdominal segments; cremaster dark brown; thorax covered with dark brown spots with 2 roughly crescent-shaped dark markings at posterior and wedge-shaped dark markings at anterior edge; wing-cases marked with dark brown spots along wing venation; pupal cap sclerotized with a short, bifid projection and covered in waxy 'bloom' which variably extends posteriorly to wing-cases, thorax and abdominal segments; pupal setae (Fig. 9) simple to 'fish-tailed' and covering body, especially on posterior segments.

Trapezites phigalioides **Waterhouse, 1903.**
(Figs 16-28)

Foodplant. Lomandra sp., family Xanthorrhoeaceae.

Egg. (Figs 16, 17). Diam. 1.2 mm, dome-shaped, pale green when first laid, orange pattern less prominent than that of *T. iacchoides*; 18-20 ribs.

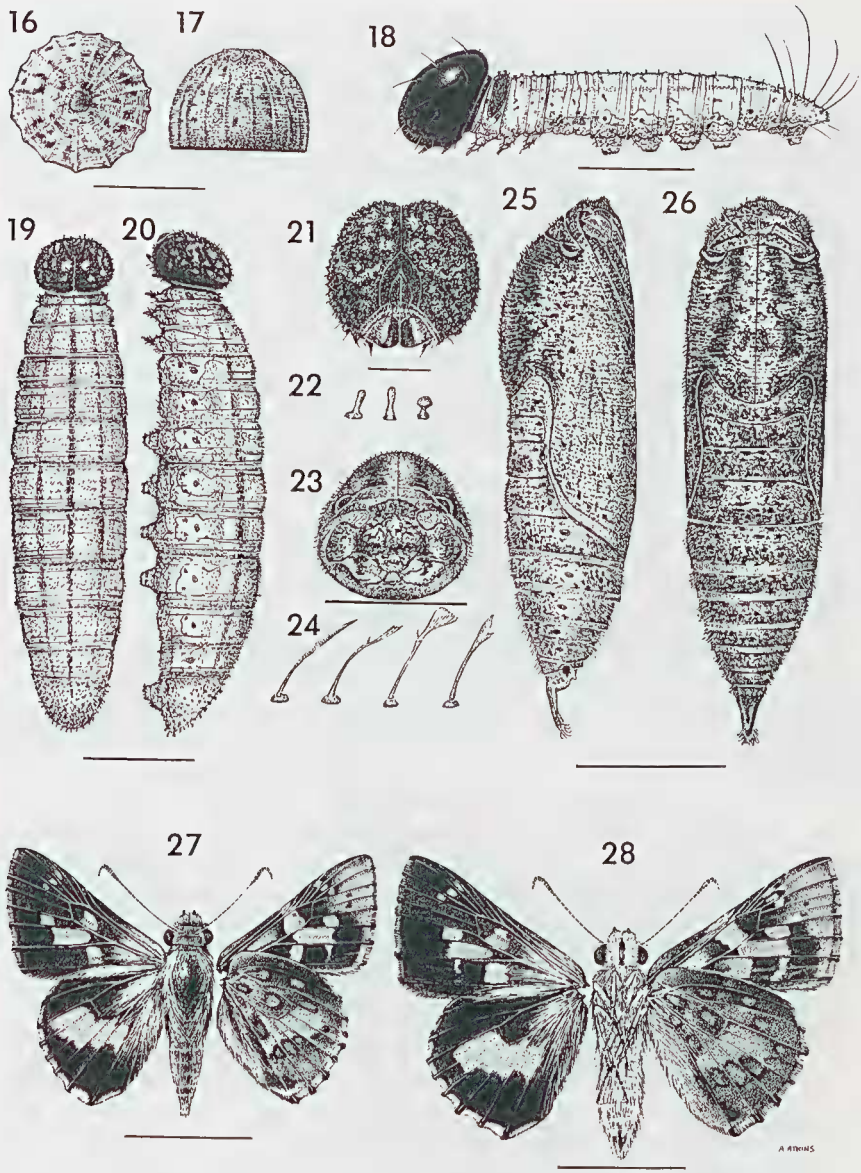
Larva. (Figs 18-22). *1st instar* (Fig. 18): length 3 mm, similar to *T. iacchoides. 2nd-5th instars* (4th instar, Figs 19-22) similar to *T. iacchoides*; head covered (mainly dorsal area) with irregular pale brown spots; body with a dorsal and dorso-lateral dark line (mature larva described by Common and Waterhouse, 1981).

Pupa. (Figs 23-26). Length 20 mm; pale brown with darker brown spots; cremaster dark brown; thorax with wedge-shaped dark markings at anterior edge and two dorso-lateral dark brown bands, narrow centrally; wing-cases and waxy 'bloom' similar to that of *T. iacchoides*; pupal setae (Fig. 24) simple.

Notes

Field observations of *Trapezites iacchoides* were made at Sydney and Barrington Tops, New South Wales, and those of *Trapezites phigalioides* at Honeysuckle Creek, Australian Capital Territory. Eggs were obtained by caging adult females from these localities in net-covered pots containing various species of *Lomandra.* The eggs were laid at random on the leaves, debris and netting and hatched within 16 days. The larvae readily accepted *Lomandra filiformis* (Thunb.), *Lomandra glauca* (R. Br) Ewart, *Lomandra multiflora* (R. Br) Britten and *Lomandra longifolia* Labill. The larvae fed regularly at night during late summer and autumn, but less frequently during cold weather in winter. The larvae rested during the day in silk-woven shelters within the foodplant, and the later instars made shelters of debris, densly lined with silk, at the base of the plant where pupation occured. The pupal stage lasted approximately 2 weeks. Males tended to emerge earlier in the season than females.

The adults of both species are active in bright warm weather, flying swiftly and low across sunlit glades. They frequent the flowers of *Pimelia* spp. and wild raspberry. Males normally 'hill-top' but at Barrington Tops both males and females of *T. iacchoides* rest, during warm cloudy weather, on stones and road-tracks. Oviposition of this species was not recorded, though females at Sydney were seen to flutter around *L. glauca.* A female of *T. phigalioides* was observed ovipositing on an unidentified *Lomandra* seedling at Honeysuckle Creek. Common and Waterhouse (1981) record *L. filiformis* as the larval foodplant of this species at the Boyd River, New South Wales.



Figs 16-28. Life history of *Trapezites phigalioides* Waterhouse: (16, 17) egg; (18) 1st instar larva; (19-21) mature larva; (22) larval setae; (23, 25, 26) pupa; (24) pupal setae; (27, 28) adult male and female, upperside and underside, from Honeysuckle Creek.

Comments

The life histories of *Trapezities iacchoides* and *Trapezites phigalioides* are typical for this genus and very similar to those of *Trapezites maheta* (Hewitson) and *Trapezites praxedes* (Plotz). These four species were originally considered to be a single species (see Waterhouse, 1912 and Sands *et. al.*, 1984). Comparison of both adult and juvenile morphology and habitats of these skippers indicate that they comprise a distinctive species group within the genus, with *Trapezites phigalia* (Hewitson) their closest ally.

T. maheta and *T. praxedes* are confined to northern and southern coastal or near-coastal sclerophyll forests of eastern Australia at elevations below 500 m. Both are bivoltine. *T. iacchoides* and *T. phigalioides* are single-brooded, and are more common at an elevation from 300 m to 1400 m and are generally very local in occurrence. In some localities both species are found together, but *T. iacchoides* appears to prefer higher rainfall zones on hill-slopes or near elevated swamps.

Variation

There are significant differences in the early stages of *Trapezites iacchoides* from Sydney and those from Barrington Tops. These differences can be seen in the rib-structure of the eggs (Figs 14, 15). The larval head and pupa of specimens reared from Sydney are more strongly marked and the adults from montane northern New South Wales are larger and more brightly patterned. Similarly, adults of *T. phigalioides* from northern New South Wales and southern Queensland are larger than specimens from southern New South Wales, the Australian Capital Territory and eastern and western Victoria.

Acknowledgements

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